

IN THE CLAIMS

Claims pending

- At time of the Action: 1-12, 15, 17-36, 38-39, and 51-59
- After this Response: 1-12, 15, 17-36, 38-39, and 50-58

5 **Canceled or Withdrawn claims:** 13, 14, 16, 37, and 40-49

Amended claims: 1, 17, 29, and 50-58

New claims: None

This listing of claims replaces all prior versions and listings:

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1. (Currently Amended) A method for mapping between parts of an input document and associated parts of an output document, the input document pertaining to a first kind of document, and the output document pertaining to a second kind of document, comprising:

15 providing a translation file that converts documents of the first kind to documents of the second kind;

in a first phase, modifying the translation file to include mapping functionality that can provide information regarding relationships between parts of documents of the first kind and associated parts of documents of the second kind, the first phase producing a modified translation file;

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in a second phase, using the modified translation file to convert the input document into the output document, including:

activating the mapping functionality; and

using the mapping functionality to provide references in the output

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document that associate parts of the output document with parts of the input document, wherein the references provide pointers that link the parts of the output document with the parts of the input document.

2. (Original) The method according to claim 1, where the first kind of document is a markup language document that uses tags pertaining to subject matter fields in the input document.

5 3. (Original) The method according to claim 2, wherein the first kind of document is expressed in the extensible markup language (XML).

 4. (Original) The method according to claim 1, wherein the second kind of document is a markup language document that uses tags pertaining to visual
10 features in the output document.

 5. (Original) The method according to claim 4, wherein the second kind of document is expressed in hypertext markup language (HTML).

15 6. (Original) The method according to claim 1, wherein the output document comprises an electronic form having at least one data entry field therein, wherein the data entry field is mapped to a corresponding part of the input document via at least one reference.

20 7. (Original) The method according to claim 6, further comprising:
receiving information input by a user into the data entry field; and
modifying the corresponding part of the input document pointed to by the at
least one reference in response to the receiving.

25 8. (Original) The method according to claim 1, wherein the translation file is expressed in the extensible stylesheet language (XSL).

9. (Original) The method according to claim 8, wherein the modifying of the translation file includes adding extension functions to the translation file expressed in the extensible stylesheet language (XSL).

5 10. (Original) The method according to claim 9, wherein the activating of the mapping functionality includes calling the extension functions to return the references that associate parts of the output document with parts of the input document.

10 11. (Original) The method according to claim 1, wherein the modifying of the translation file in the first phase includes adding the mapping functionality at locations in the translation file that mark context changes in the output document.

15 12. (Original) The method according to claim 1, wherein the modifying of the translation file in the first phase includes adding the mapping functionality at locations in the translation file that mark data items contained in the input document that are to be bound to corresponding parts in the output document.

13. (Canceled)

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14. (Canceled)

15. (Original) A method for generating mapping functionality that can map between parts of an input document and associated parts of an output document, the input document pertaining to a first kind of document, and the output document pertaining to a second kind of document, comprising:

providing a translation file that converts documents of the first kind to documents of the second kind; and

modifying the translation file to include mapping functionality that can provide information regarding relationships between parts of documents of the first kind and associated parts of documents of the second kind.

5 16. (Canceled)

17. (Currently Amended) An apparatus for mapping between parts of an input document and associated parts of an output document, the input document pertaining to a first kind of document, and the output document pertaining to a
10 second kind of document, and further wherein a translation file converts documents of the first kind to documents of the second kind, the apparatus comprising:

annotation logic configured to modify the translation file to include mapping functionality that can provide information regarding relationships
15 between parts of documents of the first kind and associated parts of documents of the second kind, to thereby provide a modified translation file;

a storage for receiving the modified translation file;

runtime logic configured to convert the input document into the output document using the modified translation file in the storage, including:

20 activation logic configured to activate the mapping functionality;
and

output logic configured to use the activated mapping functionality to provide references in the output document, wherein the references provide pointers that link the parts of the output document with the parts of the
25 input document.

18. (Original) The apparatus according to claim 17, where the first kind of document is a markup language document that uses tags pertaining to subject matter fields in the input document.

19. (Original) The apparatus according to claim 18, wherein the first kind of document is expressed in the extensible markup language (XML).

20. (Original) The apparatus according to claim 17, wherein the second
5 kind of document is a markup language document that uses tags pertaining to visual features in the output document.

21. (Original) The apparatus according to claim 20, wherein the second kind of document is expressed in hypertext markup language (HTML).

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22. (Original) The apparatus according to claim 17, wherein the output document comprises an electronic form having at least one data entry field therein, wherein the data entry field is mapped to a corresponding part of the input document via at least one reference.

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23. (Original) The apparatus according to claim 22, further comprising:
receiving logic configured to receive information input by a data into the user entry field; and

editing logic configured to modify the corresponding part of the input
20 document pointed to by the at least one reference in response to the receiving.

24. (Original) The apparatus according to claim 17, wherein the translation file is expressed in the extensible stylesheet language (XSL).

25. (Original) The apparatus according to claim 24, wherein the annotation logic is configured to modify the translation file by adding extension functions to the translation file expressed in the extensible stylesheet language (XSL).

26. (Original) The apparatus according to claim 25, wherein the activation logic is configured to activate the mapping functionality by calling the extension functions to return the references that associate parts of the output document with parts of the input document.

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27. (Original) The apparatus according to claim 17, wherein the annotation logic is configured to modify the translation file in the first phase by adding the mapping functionality at locations in the translation file that mark context changes in the output document.

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28. (Original) The apparatus according to claim 17, wherein the annotation logic is configured to modify the translation file in the first phase by adding the mapping functionality at locations in the translation file that mark data contained in the input document that are to be bound to corresponding parts in the output document.

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29. (Currently Amended) A computer readable medium having machine readable instructions for mapping between parts of an input document and associated parts of an output document, the input document pertaining to a first kind of document, and the output document pertaining to a second kind of document, and further wherein a translation file converts documents of the first kind to documents of the second kind, the apparatus comprising:

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annotation logic configured to modify the translation file to include mapping functionality that can provide information regarding relationships between parts of documents of the first kind and associated parts of documents of the second kind, to thereby provide a modified translation file;

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a storage for receiving the modified translation file;

runtime logic configured to convert the input document into the output document using the modified translation file in the storage, including:

activation logic configured to activate the mapping functionality;
and

output logic configured to use the activated mapping functionality to
provide references in the output document that associate parts of the output
5 document with parts of the input document, wherein the references provide
pointers that link the parts of the output document with the parts of the
input document.

30. (Original) An apparatus for providing mapping functionality that maps
10 between parts of an input document and associated parts of an output document,
the input document pertaining to a first kind of document, and the output
document pertaining to a second kind of document, and further wherein a
translation file converts documents of the first kind to documents of the second
kind, the apparatus comprising:

15 annotation logic configured to modify the translation file to include
mapping functionality that can provide information regarding relationships
between parts of documents of the first kind and associated parts of documents of
the second kind; and

a storage for receiving the modified translation file.
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31. (Original) A computer readable medium having stored thereon an
information structure, comprising:

a plurality of translation elements configured to convert a first kind of
document into a second kind of document; and

25 a plurality of functions interspersed amongst the plurality of translation
elements, the plurality functions configured to provide a respective plurality of
references, wherein the references provide pointers that link parts of the second
kind of document with parts of the first kind of document.

32. (Original) The computer readable medium of claim 31, wherein a collection of the plurality of functions have respective positions amongst the plurality of translation elements so as to mark context changes in the second kind of document.

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33. (Original) The computer readable medium of claim 31, wherein a collection of the plurality of functions have respective positions amongst the plurality of translation elements so as to mark data contained in the first kind of document that is to be bound with corresponding parts in the second kind of document.

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34. (Original) A computer readable medium having stored thereon an information structure, comprising:

a plurality of translation elements configured to convert a first kind of document into a second kind of document; and

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a plurality of references interspersed amongst the plurality of translation elements, wherein the plurality of references provide pointers that link respective parts of the second kind of document with parts of the first kind of document.

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35. (Original) The computer readable medium of claim 34, wherein a collection of the plurality of references have respective positions amongst the plurality of translation elements so as to mark context changes in the second kind of document.

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36. (Original) The computer readable medium of claim 34, wherein a collection of the plurality of references have respective positions amongst the plurality of translation elements so as to mark data contained in the first kind of document that is to be bound with corresponding parts in the second kind of document.

37. (Canceled)

38. (Previously Presented) The method according to claim 1, wherein the translation file is expressed in an arbitrary format.

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39. (Previously Presented) The method according to claim 1, wherein the modifying is performed in a substantially automatic fashion.

40-49. (Canceled)

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~~51~~50. (Currently Amended) The method according to claim 1, wherein the translation file is expressed in extensible stylesheet language (XSL) and is sufficient in an unmodified state to convert documents of the first kind to documents of the second kind.

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~~52~~51. (Currently Amended) The method according to claim 1, wherein the first kind of document is expressed in the extensible markup language (XML) and the second kind of document is expressed in hypertext markup language (HTML).

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~~53~~52. (Currently Amended) The method according to claim ~~54~~50, wherein the translation file is not sufficient in an unmodified state to return the references that associate the parts of the output document with parts of the input document.

~~54~~53. (Currently Amended) The method according to claim 1, wherein the
25 modifying of translation file in the first phase include adding mapping functionality at locations at which predetermined instructions occur in the translation file.

5554. (Currently Amended) The method according to claim 1, wherein the modifying of the translation file comprises:

- automatically adding mapping functionality to the translation file; and
- manually modifying the translation file in a circumstance in which the automatic adding is not sufficient.

5655. (Currently Amended) The method according to claim 1, wherein the modifying of the translation file in the first phase comprises:

- adding the mapping functionality at locations in the translation file that mark context changes in the output document; and
- adding second mapping functionality at locations in the translation file that mark data items contained in the input document that are to be bound to corresponding parts in the output document.

5756. (Currently Amended) The method according to claim 1, wherein the mapping functionality comprises a plurality of mapping functions added to the translation file at selected locations within the translation file, wherein the second phase involves calling the mapping functions to return the references that associate the parts of the output document with the parts of the input document.

5857. (Currently Amended) The method according to claim 5756, wherein the translation file is expressed in extensible stylesheet language (XSL), and wherein the mapping functions comprise extension functions which extend functionality provided by XSL.

5958. (Currently Amended) The method of claim 1, where the first phase is performed once and the second phase is performed for each conversion of a particular input document of the first kind to a particular output document of the second kind.